

REMARKS

Claims 35-47, 49-52, and 54 are pending. Claims 1-34, 48, and 53 have been canceled. Claims 35, 36, 49, and 54 have been amended. Support for these amendments can be found, for example, at paragraph [0039]. As such, no new matter has been introduced by way of these amendments. Applicants respectfully request reconsideration of the pending claims in view of these amendments and the remarks below.

Claim 54 is Patentable over Higgins

Claim 54 stands rejected under 35 U.S.C. § 103(a) over Higgins (U.S. Patent No. 4,707,227). To establish a prima facie case of obviousness a three-prong test must be met. First, there must be some suggestion or motivation, either in the references or in the knowledge generally available among those of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success found in the prior art. Third, the prior art must reference must teach or suggest all the claim limitations. M.P.E.P. § 2142.

Applicants respectfully submit that the Office has failed to establish a prima facie case of obviousness. The art cited against the pending claims fails to support a prima facie case of obviousness because it does not teach or suggest all the limitations of the pending claims, it does not provide a reasonable expectation of success, and that the Office has not demonstrated a motivation to combine or modify the cited references to achieve the claimed invention.

Higgins does not teach all the limitations of claim 54. Specifically, Higgins does not teach or suggest a method wherein the pH of the solution remains constant. Higgins teaches the use of a continuous counter-current ion exchanger to remove HCl from the solution during the process. Higgins states that as the solution leaves the bottom of the electrolytic cell it “contains a substantial quantity of free HCl which would be detrimental to the current density and current efficiency of the cell if reused.” Higgins, Col. 3, lines 44-48. Higgins goes on to state that it is “important” to continuously remove HCl from the system, because failure to do so results in the primary production of “hydrogen and chlorine gases instead of manganese metal and manganese dioxide.” Higgins, Col. 4, lines 44-48. These two passages indicate that the method taught by Higgins results

in large changes in the pH of the solution as it is processed. Accordingly, the Higgins patent does not teach or suggest keeping the pH of the solution at a relatively constant pH.

One of ordinary skill in the art would not have had a reasonable expectation of success in practicing the claimed invention in view of the disclosure of Higgins. The methods taught by Higgins rely upon the continuous removal of HCl from the processed solution to produce the desired manganese products. Based, in part on the passage discussed above, one of ordinary skill in the art would not have reasonably expected a process like the one encompassed by claim 54 to produce successfully manganese metal and manganese dioxide without the continuous removal of HCl.

The Office has not provided any indication that one of ordinary skill in the art would have been motivated to modify the cited reference to achieve the claimed invention. The Office suggested in the Office Action that the only difference between the claimed invention and that described by Higgins was the order of the steps used in the two methods. Applicants respectfully disagree. In addition to the order of the steps, the claimed method requires that a relatively constant pH for the solution be maintained. As discussed above, the method taught by Higgins requires the continuous removal of HCl to function. The present method, relying in part on the QL reagent, seeks to maintain a relatively constant pH for the solution. Higgins is not so motivated. Any alteration of the Higgins method to meet the limitations of claim 54 would render the Higgins method unsuitable for its intended purpose, and thus inappropriate.

For these reasons, Applicants respectfully submit that claim 54 is patentable over the Higgins reference.

Claims 35-47 and 49-52 are Patentable over Higgins in View of Cardwell et al

Claims 35-47 and 49-52 stand rejected under 35 U.S.C. § 103(a) over Higgins in view of Cardwell et al. (U.S. Patent No. 4,042,664). For the reasons discussed above, the Higgins reference fails to establish a *prima facie* case of obviousness. The Office cited Cardwell et al. to show that the QL reagent was known in the art at the relevant time point. What this reference does not teach or suggest is how the teachings of Higgins, which requires the use of a continuous counter-current ion exchanger to remove HCl from the solution, could be modified to achieve the claimed invention.

Because the teachings of Cardwell et al. do no ameliorate the deficiencies discussed above, the pending claims are patentable over the combination of Higgins in view of Cardwell et al. Accordingly, the present rejection should be withdrawn.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 144092000401. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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